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Avalanche Notes

U.S. Forest Service
Westwide Avalanche Network

FEBRUARY, 1978

The weather of February in the West followed the pattern set in January--mostly mild temperatures and above normal snowfall except in the Cascades and southeast Alaska. The snowfall sweepstakes winner this month was Alyeska with a whopping 249 inches, increasing their snowpack from 76 to 168 inches. This snowfall was 83 times that at Eaglecrest! Elsewhere the snowfall was less impressive but still adequate: in the Sierra, Alpine Meadows received 109% of normal and Mammoth Mt., 171%; in the inter-mountain region, Alta, 119%; Bridger Bowl, 128%; Jackson, 140%; and Sun Valley, 177%; in the central and southern Rockies, Berthoud Pass, 119%; Aspen, 155%; Breckenridge, 92%; Taos, 148%; and Vail, 186%. The Cascades saw only 52 to 83% of normal snowfall for the month.

In February, 27 avalanche accidents occurred, and it was on the 10th that a series of fatal avalanches ran. On this day, a major snowstorm raged from the Sierra to the Rockies. Mammoth Mt. received 42 inches of snow on the 9th-10th, and Pine Creek Mill near Bishop, 60 inches on the 9th-11th. Near mid-day on the 10th at Twin Lakes west of Bridgeport, CA, a series of wet avalanches rained down the steep mountainsides above the lakes. One destroyed a summer home, two garages, and a pump house, all valued at roughly \$40,000. A short time later, another slide struck a pickup truck and snowplow on the road along Lower Twin Lake. The nose of plow was pushed into the lake, but the driver escaped unharmed. The pickup was swept far out into the deep, unfrozen lake, and it sunk with two men in the cab. Both drowned. Approximately 20 minutes later, another truck arrived at the scene, its passage blocked by the avalanche covering the road. One rider decided to proceed on foot. He climbed over the mound of snow and had walked only a short distance when he was struck by another avalanche. He was carried into the lake and drowned. These bizarre events were viewed by several eyewitnesses. Several days later, divers found the pickup 70 feet deep, 300 feet from shore. No bodies were found.

Also on the 10th on Red Mt. Pass, CO, a Colorado Highway Department rotary plow driver was clearing a small avalanche from the road beneath the infamous East Riverside Slide. A second, more massive slide then released, sweeping the huge rotary plow off the road and into the deep Uncompahgre Gorge. A rescue was begun quickly, but probes and shovels could not penetrate the dense snow. The rotary was located the following morning, but it took 13 hours of additional digging to locate the cab, 35 feet deep. The driver had been thrown out and was buried elsewhere in the massive debris. His body will be found this spring. The replacement cost of the rotary plow is roughly \$75,000. This accident was a carbon copy of one occurring in 1970 when another CHD man was killed. In the past 15 years, five lives have been lost in avalanches on Red Mt. Pass, all at the hands of the East Riverside Slide.

The avalanche death toll thru February stands at 12. The winter's avalanche accident statistics are summarized in the table below. Avalanche Notes for March will be delayed until early May because of travel commitments.

TOTAL AVALANCHES REPORTED				DAMAGE SUMMARY - THIS WINTER							
Area	This Month	This Winter	People				Vehicles		Avalanche Damaged		
			C	B	I	K	B	D	Bldgs	Lifts	Misc
Central & So. Rockies	555	1526	32	12	3	4	3	1	0	0	2
Intermountain	683	2034	32	13	3	0	0	0	0	0	0
West Coast	1306	3891	39	19	2	8	12	3	4	2	0
All Areas	2544	7451	103	44	8	12	15	4	4	2	2

U.S. FOREST SERVICE
ALPINE SNOW AND AVALANCHE RESEARCH PROJECT
RM STATION FORT COLLINS, COLO.

FEBRUARY 1978

SUMMARY OF WEATHER AND SNOW CONDITIONS

AREA	SNOWFALL				WATER EQUIVALENT								SNOW DEPTH				TEMPERATURE				WIND SPEED AND DIRECTION								
	MAX				MAX				D				MEAN				AVG												
	TN				TN				T				MAX				DEGREES F				FOR								
	TOTAL	IN.	AVG	HR.	TOTAL	IN.	HR.	T	T	A	D	IN.	MIN	AVG	IN.	MAX	MIN	AVG	MPH	15	20	GE	PERIODS	FASTEST	A	T	HOUR	DIR.	E
CENTRAL AND SOUTHERN ROCKY MOUNTAINS																													
ASPEN MOUNTAIN, COLO	52.5	.05	9	28	2.59	.59	28	13	4	1	0	59	28	42	47	22.8	10.1	14.5	7.1	5	3	--	--	24	270	10	--	--	--
BEAR LAKE, RMNP, CO	42.3	.07	12	26	2.82	.60	26	9	5	2	0	60	28	47	49	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BERTHOUD PASS, COLO	57.5	.06	11	26	3.41	.55	12	13	5	2	0	74	28	55	61	23.9	3.4	13.6	16.2	61	30	44	340	20	--	--	--	--	
BERTHOUD-MINES PEAK	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	29.3	101	87	82	330	19	--	--	--	--	
BRICKENRIDGE, COLO	42.5	.09	8	25	3.82	1.13	20	10	6	2	1	82	28	71	74	22.1M	8.2	15.1M	15.2	70	36	35	210	19	--	--	--	--	
CAMP RICE MINE, COLO	68.0	.05	14	10	3.40	.90	10	8	8	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
COPPER MTN COLO	40.5	.06	9	25	2.43	.66	20	8	3	2	0	67	25	53	57	24.8	2.3	13.5	11.0M	30M	9M	35	250	27	--	--	--	--	
CRESTED BUTTE, COLO	62.7	.07	12	10	4.12	.70	10	14	10	3	0	46	28	46	55	31.4M	6.0M	18.7M	--	--	--	--	--	--	--	--	--	--	
ELKTON, COLORADO	110.5	.06	21	10	6.40	1.10	28	13	10	5	2	106	28	73	86	30.4M	7.3M	18.9M	--	--	--	--	--	--	--	--	--	--	
GENEVA BASIN, CO	18.5	--	5	26	--	--	--	--	--	--	--	52	28	45	48	26.5	7.9	17.2	--	--	--	--	--	--	--	--	--	--	
GOTHIC, COLO	87.0	.06	18	10	4.92	.80	28	13	7	3	0	79	28	49	62	19.1	-1.1	9.0	--	--	--	--	--	--	--	--	--	--	
KEYSTONE, COLO	31.0	--	7	12	--	--	--	--	--	--	--	50	28	39	42	25.0	6.9	14.0	8.5M	9M	5M	34	330	20	--	--	--	--	
LOVELAND PASS U.S. 6	34.5	.07	5	20	2.42	.45	20	10	5	0	0	43	28	54	57	21.6	4.5	12.1	--	--	--	--	--	--	--	--	--	--	
MONARCH, COLORADO	40.5	.08	6	9	3.17	.50	27	12	8	1	0	54	10	46	50	22.1	3.1	12.6	--	--	--	--	--	--	--	--	--	--	
OPHIR, COLORADO	30.0	.07	10	10	2.05	.80	10	5	4	1	0	53	12	42	47	--	--	--	--	--	--	--	--	--	--	--	--	--	
RABBIT EARS PASS, CO	82.0	--	12	28	--	--	--	--	--	--	--	120	28	96	104	--	--	--	--	--	--	--	--	--	--	--	--	--	
RED MTN PASS U.S. 550	64.5	.08	10	10	4.94	.80	12	11	9	4	0	91	11	67	79	22.7	--	11.3	--	--	--	--	--	--	--	--	--	--	
SUNLIGHT, COLORADO	58.0	--	10	28	--	--	--	--	--	--	--	60	28	44	48	25.8M	11.7M	18.7M	--	--	--	--	--	--	--	--	--	--	
TAOS, NEW MEXICO	45.5	.07	10	12	3.00	.55	28	10	7	1	0	62	16	39	51	22.1	9.4	15.8	14.5	57	31	40	230	27	--	--	--	--	
TELLURIDE, COLO	36.0	.05	7	10	1.90	.45	10	10	6	0	0	52	12	41	44	23.4M	8.6M	14.0M	--	--	--	--	--	--	--	--	--	--	
VAIL, COLO	99.5	.06	16	20	5.52	.85	20	15	11	5	0	102	28	75	84	23.9	4.4	14.1	7.9M	5M	1M	30	270	1	--	--	--	--	
WINTER PARK 1E, COLO	48.0	.06	8	26	2.81	.45	28	11	6	0	0	51	28	37	40	28.2	2.9	15.6	--	--	--	--	--	--	--	--	--	--	
WOLF CREEK, COLORADO	58.0	.07	16	11	4.14	1.20	11	9	7	4	1	88	12	62	74	34.2M	6.8M	20.5M	--	--	--	--	--	--	--	--	--	--	
WOLF CRK PASS US 160	73.0	.04	20	12	2.75	.70	12	9	5	2	0	--	--	--	--	35.0	.5	17.7	--	--	--	--	--	--	--	--	--	--	

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RM STATION FORT COLLINS, COLO.

FEBRUARY 1978

SUMMARY OF WEATHER AND SNOW CONDITIONS

AREA	SNOWFALL				WATER EQUIVALENT				SNOW DEPTH				TEMPERATURE				WIND SPEED AND DIRECTION			
	MAX				MAX				D				MEAN				6 HOUR			
	TN				TN				A				MIN				PERIODS			
	TOTAL SNOW- FALL	IN.	AVG	DEN	TOTAL WATER	IN.	AVG	HR.	T	A	T	A	MAX	MIN	AVG	IN.	GE	GE	GE	FASTEST HOUR
INTERMOUNTAIN																				
ALTA, UTAH	92.5	.09	15	10	9.69	2.10	10	14	12	8	2	115	16	79	98	28.2	10.0	19.1	--	--
BRIDGEF. BOWL, MONT	60.5	.05	9	24	2.90	.60	24	10	5	1	0	103	1	84	92	27.2M	14.3M	20.7M	15.8	65
GRAND TARGHEF, WYO	67.5	.08	15	25	5.50	1.45	25	14	9	5	1	101	28	81	89	27.3	16.3	21.8	12.4M	35M
JACKSON HOLE 1, WYO	103.5	.07	17	11	7.40	1.25	3	14	11	4	2	137	11	110	120	21.9	14.3	18.1	19.2M	78M
SNOWBIRD, UTAH	99.5	.08	17	8	7.94	1.78	8	14	11	4	2	110	16	77	96	32.3M	15.3M	23.8M	18.7	79
SUN VALLEY, IDAHO	55.5	.10	12	8	5.45	1.45	8	8	7	4	2	85	12	54	71	30.0	13.7	21.8	10.0	25
TETON PASS, WYO 22	87.5	.08	16	11	6.75	1.67	11	15	11	5	1	96	11	75	84	26.3	15.5	20.9	--	--
WEST COAST																				
ALPENTAI, WASH	55.0	.10	14	2	5.48	1.38	2	10	8	4	1	90	2	71	77	37.0	29.0	33.0	--	--
ALPINE MEADOWS, CAL	69.0	.11	15	8	7.78	2.16	8	9	8	4	4	130	11	90	113	35.9	24.1	30.0	13.2	51
ALYESKA, ALASKA	249.0	.08	26	25	19.55	3.00	25	20	20	15	7	162	26	74	119	26.9	21.4	24.1	9.4M	27M
CARSON PASS CALIF 88	117.0	.07	24	9	8.67	2.14	9	9	7	6	4	131	13	82	107	38.9	19.6	20.3	--	--
CRYSTAL MTN 1, WASH	35.5	.06	8	2	3.21	.60	6	11	8	2	0	49	2	38	42	35.3	24.9	30.1	13.8M	47M
CRYSTAL MTN 2, WASH	26.0	.10	4	10	3.56	1.35	6	10	9	1	0	98	15	75	83	30.0	20.2	25.1	--	--
EAGLECRST, ALASKA	3.0	--	2	10	--	--	--	--	--	--	--	36	1	28	31	32.8M	20.2M	26.5M	17.1M	52M
HEAVENLY VALLEY, CAL	39.0	--	12	9	--	--	--	--	--	--	--	109	13	70	90	--	--	--	--	--
MAMMOTH MTN, CALIF	97.0	.10	21	9	10.05	2.50	6	8	7	6	5	148	10	102	137	31.5	21.2	26.4	8.9M	22M
MISSION RIDGE, WASH	34.5	.12	9	2	3.98	1.00	2	9	6	3	1	56	15	48	51	34.4	20.8	27.6	7.4M	12M
MT. BAKER, WASH	59.2	.11	12	3	9.80	2.25	8	12	12	8	4	133	9	117	126	36.2M	28.1M	32.2M	7.3M	12M
MT. HOOD MOWS, ORE.	73.0	.12	14	2	11.77	2.82	2	13	12	9	2	128	9	110	118	33.7	25.0	20.4	12.4	52
MT. RAINIER PARADISE	86.3	.10	15	2	9.26	1.43	2	13	12	7	3	144	3	131	139	34.9	23.5	20.2	8.1	4
MULTORPOR SKI BOWL, OR	20.5	.12	7	2	4.32	1.08	2	8	7	3	1	29	2	15	21	37.3M	28.2M	32.7M	--	--
PINE CREEK MILL, CAL	76.0	.23	30	10	17.29	7.20	10	7	7	5	3	86	11	20	48	38.0	25.9	31.9	3.6	0
SQUAW VALLEY, CALIF	56.0	--	15	8	--	--	--	--	--	--	--	170	13	127	153	46.7M	23.0	34.8M	--	--
STEVENS PASS, WASH	68.0	.07	15	28	5.30	1.11	2	14	9	3	1	96	3	82	87	32.7	23.1	27.9	7.5	0
STEVENS PASS SE WASH	62.5	.11	12	2	9.00	3.30	3	13	11	4	1	107	3	91	98	33.0	25.6	20.3	10.7M	15M

AREA	TOTAL	TOTAL	DATES	NUMBER	TYPE OF AVALANCHE										FRACTURE	VERTICAL DESCENT				AVAILS ACROSS MAJOR ACCESS ROADS NO.																																																																																																																																																																																																																																																																																																																																			
	THIS MONTH NO.	THIS WINTER NO.	OF	OF DAYS WITH	SLABS										LINE HEIGHTS IN FEET	IN FEET																																																																																																																																																																																																																																																																																																																																							
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A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L S	A V A L

U.S. FOREST SERVICE

AVALANCHE SUMMARY

--=DATA INCOMPLETE OR MISSING
GE=GREATER THAN OR EQUAL TO
+=ALSO OCCURRED ON OTHER DATE

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